

ABSTRACT OF THE DISCLOSURE

A method for producing a shaft comprising a first section, a second channelled section, and a third section provided with an abutment shoulder surface for the starter, the method comprising the following steps: a) the three sections are machined; b) external grooves are produced in the second section; and c) at least one axial part of the starter shaft is subjected to a surface heating treatment. The invention is characterised in that the method comprises an additional step, prior to the heating treatment step, for reducing the residual mechanical stresses resulting from steps preceding the heating treatment. The additional step is a step for annealing, especially by induction heating, at least one axial part of the starter.